

AMENDMENTS TO THE SPECIFICATION

Please insert the following section heading beginning at page 1, line 5.

-- BACKGROUND OF THE INVENTION --

Please replace the section heading beginning at page 1, line 16, with the following rewritten section heading:

-- ~~BACKGROUND OF THE INVENTION~~DESCRIPTION OF RELATED
ART --

Please replace the paragraph beginning at page 4, line 20, with the following rewritten paragraph:

-- Instead of the oxide-coated iron powder or the resin-coated iron powder, for example, resin-coated carriers of soft ferrite, such as Cu-Zn ferrite or Ni-Zn ferrite, have been used as described in a ~~patent document 1~~ (Japanese Patent Laid-Open Publication No. 48774/1984). Because the resin-coated carrier using soft ferrite as a core material has low magnetization, a head of the developing magnetic brush can be made soft, and hence, reproducibility of vertical and horizontal lines of the resulting image becomes good. --

Please replace the paragraph beginning at page 7, line 12, with the following rewritten paragraph:

-- In order to inhibit the leakage of electric charge in a high electric field such as the alternating electric field thus applied, it is necessary to prevent dielectric breakdown of the carrier particles, and it is desirable to use, as the carrier particles, a carrier having a resin coating layer on a surface of a carrier core material. However, the amount of the resin used for the resin coated carrier is relatively small, and the thickness of the resin coating layer is thin, and besides the carrier core material is not always completely coated with the resin. Therefore, even if such a resin coating layer is formed, the leakage of electric charge is not completely prevented by the resin coating layer. That is to say, by coating the carrier particle with a resin, the carrier particle exhibits high electrical resistance in a low electric field, but in a high electric field, leakage of electric charge sometimes takes place because of an influence by the core material itself. Especially when a core material of low electrical resistance, such as iron powder or magnetite, is used as the carrier core material, such tendency is markedly observed. Further, even if the conventional Cu-Zn ferrite particles or Ni-Zn ferrite particles

and the ferrite particles described in ~~a patent document 2~~ (Japanese Patent Laid-Open Publication No. 69131/1996), which are considered to have relatively high dielectric breakdown voltage, are used, it is difficult to obtain uniform and faithful image reproducibility in the existing circumstances. --

Please replace the paragraph beginning at page 8, line 16, with the following rewritten paragraph:

-- ~~In a patent document 3~~ (Japanese Patent Laid-Open Publication No. 51563/1994) and ~~a patent document 4~~ (Japanese Patent Laid-Open Publication No. 35231/1994), ~~it is described~~ disclose that if the magnetization of a carrier is weakened to, for example, about 30 to 150 emu/cm³, the magnetic brush becomes soft in the magnetic field at the development pole and an image faithful to the latent image can be obtained. Although the magnetic brush becomes soft and a relatively good image tends to be obtained by weakening the magnetization of the carrier as described above, image reproducibility of high level that is required with the recent increase of image quality is not satisfied. --

Please replace the paragraph beginning at page 9, line 5, with the following rewritten paragraph:

-- ~~In a patent document 5~~ (Japanese Patent Laid-Open Publication No. 181744/1995), ~~there is disclosed~~ discloses an electrophotographic carrier obtained by treating the surface of a carrier core material with a partial hydrolysis sol such as Zr alkoxide in coating the surface of the carrier core material. ~~In this~~ This publication, ~~it is described~~ discloses that the thus formed coating layer is extremely hard and does not peel off during the period of service, so that a stable image can be formed. In the recent compact developing apparatus suffering heavy developing stress, however, the carrier cannot have sufficient durability in many cases, for example, because of peeling of the coating layer, the carrier core material is exposed to cause leakage of electric charge. --

Please replace the paragraph beginning at page 9, line 19, with the following rewritten paragraph:

-- ~~In a patent document 6~~ (Japanese Patent Laid-Open Publication No. 197214/1993), ~~there is disclosed~~ discloses a carrier having a carrier core material whose surface is coated with a polyolefin resin containing carbon black, said carrier core material being obtained by contacting a surface of a carrier core material with a high-activity catalyst

component comprising Ti or Zr in a hydrocarbon solvent and polymerizing an olefin monomer onto the surface. In this publication, it is described that this carrier is excellent in durability, resistance to stress and resistance to environment. The carrier described in this publication, however, is a coated carrier wherein the surface of a carrier core material is coated with polyolefin, and in a high-speed apparatus suffering heavy stress, the surface coating peels off, so that sufficient durability is not obtained. --

Please replace the paragraph beginning at page 10, line 11, with the following rewritten paragraph:

-- ~~In a patent document 7~~ (Japanese Patent Laid-Open Publication No. 194338/1996), ~~there is disclosed~~ discloses a ferrite carrier containing a specific component that is added for the purposes of maintaining high charging property of the toner and preventing adhesion of carrier and unevenness of density to improve color developing stability. In this publication, there is also disclosed a carrier wherein an oxide containing at least one element selected from Groups IA, IIA, IIIA, IVA, VA, IIIB and VB of the periodic table is added to a ferrite carrier component containing a specific component in order to control a degree of crystal growth or irregularity of a particle surface and in order to control particle density. In the case of randomly selecting such an element to be added, however, it is impossible to inhibit leakage of electric charge in a high electric field with keeping high magnetization. Further, it is very difficult to inhibit leakage of electric charge and to ensure uniformity of the solid and halftone portions in an alternating electric field or a high electric field only by such operations of controlling a degree of crystal growth or irregularity of a particle surface and controlling particle density as described in this publication. That is to say, this publication is not intended to inhibit leakage of electric charge in a high electric field, does not suggest anything about it and is entirely different from the present invention. --

Please replace the paragraph beginning at page 11, line 15, with the following rewritten paragraph:

-- ~~In a patent document 8~~ (Japanese Patent No. 3168377), ~~it is disclosed~~ discloses that high image qualities, such as high image density, excellent highlight reproducibility and excellent fine line reproducibility, can be achieved by the use of a carrier having specific carrier resistance and specific fluidity. In this publication, it is also disclosed that this carrier is characterized in that the resistance of the carrier core material is increased

by adding Bi_2O_3 , so that when it is not added, the resistance becomes low, and if it is added too much, a uniform ferrite phase including a surface cannot be obtained. As a result, stabilization of charging of the toner cannot be achieved. Such a high-resistance carrier that is considered to be obtainable only by the addition of Bi_2O_3 cannot have sufficient strength against the leakage of electric charge, and besides, it is difficult to sufficiently inhibit disorder of a latent image because of low dielectric breakdown voltage. Moreover, the uniform ferrite including the surface, which is considered as excellent in this publication, cannot prevent a phenomenon of leakage of electric charge particularly in a high electric field. Hence, this carrier cannot meet the requirements of the recently increased high image qualities. --

Please delete the paragraph beginning at page 12 line 15.

Please delete the paragraph beginning at page 12 line 17.

Please delete the paragraph beginning at page 12 line 19.

Please delete the paragraph beginning at page 12 line 21.

Please delete the paragraph beginning at page 12 line 23.

Please delete the paragraph beginning at page 13 line 1.

Please delete the paragraph beginning at page 13 line 3.

Please delete the paragraph beginning at page 13 line 5.

Please replace the section heading beginning at page 13, line 7, with the following rewritten section heading:

-- OBJECTS OF THE INVENTION --

Please delete the paragraph beginning at page 16 line 12.

Please delete the paragraph beginning at page 16 line 13.

Please delete the paragraph beginning at page 16 line 14.

Please delete the paragraph beginning at page 16 line 15.

Please delete the section heading beginning at page 53 line 19.